

Chapter 3 Water Pollution Control Programs

The following section provides a summary of major accomplishments and changes to NJDEP's Water Pollution Control Programs focused on calendar years 1998 and 1999. Information regarding major strategies to maintain and improve water quality is provided in each designated use assessment. Information regarding ongoing activities in the water pollution control programs was described in detail in the 1996 and 1998 New Jersey Water Quality Inventory Reports (NJDEP 1996, 1998). Additional information can be found at the NJDEP website: *www.dep.state.nj.us*

3.1 Strategic Plan & National Environmental Performance Partnership System

NJDEP's Strategic Plan and National Environmental Performance Partnership System (NEPPS) are being used to develop and implement Results Based Management in NJDEP. Major components of the Strategic Plan and NEPPS include establishing environmental goals, milestones and objectives, orienting program activities toward meeting goals and using environmental indicators to measure progress. Relevant goals, milestones and objectives for Water Resources and Land And Natural Resources are provided in Appendix A3.1. Additional information regarding NJDEP's Strategic Plan and NEPPS can be found at NJDEP's website.

NJDEP and USEPA developed a one year extension to the 1999-2000 Performance Partnership Agreement. The extension includes major changes and new commitments to ensure that NJDEP can be awarded the Performance Partnership Grant for Fiscal Year 2001. The water component of NEPPS has been expanded to include water supply and efforts are underway to develop and improve indicators in coastal and estuarine waters. To the extent possible, water quality indicators will be used in this report.

3.2 Watershed Approach

NJDEP is accelerating implementation of watershed management. As of July 1, 2000, NJDEP was active in 9 Watershed Management Areas (WMA's) and plans to be active in all 20 WMA's by October, 2000. Major activities include establishing watershed partnerships, developing issue lists, identifying and implementing Action Now projects and planning TMDLs.

In addition, NJDEP recently proposed major revisions to the Water Quality Management Planning Rules. These proposed Water Quality and Watershed Management Rules are intended to facilitate implementation of the State Development and Redevelopment Plan by encouraging new development in already sewered areas. Additional rigor has been added to environmental analyses required to amend wastewater management plans.

3.3 Water Quality Standards

New Jersey's Surface Water Quality Standards draft proposal is undergoing final legal review prior to proposal during the summer of 2000. The proposal will provide direction for implementation of the State's antidegradation policy.

3.4 Water Quality Data Collection and Development

Major accomplishments of the Division of Watershed Management's Water Monitoring

Management Program include plans to expand water chemistry monitoring to include 200 new locations on tidal and non-tidal-freshwater streams, bringing the total number of water chemistry monitoring stations to about 315.

Major accomplishments of the Division of Science, Research and Technology's Water Assessment Team include publication of Surface Water Quality Characterization and Assessment Reports for WMA's 1, 2, 12 and 19. The WAT also has completed or ongoing projects to fill data and information needs related to watershed management. Projects to develop a model to support TMDL development for nonpoint source impacts to lakes, trackdown PCBs in the Delaware Estuary, assess wetlands quality and function are filling information gaps.

The Office of Information Resources Management's Geographic Information and Analysis Program provided 1995/97 Anderson Level II land use/ land cover GIS data for 12 WMA's. The new dataset includes impervious cover and allows for an analysis of land use changes from the 1986 land use/land cover dataset. This project is expected to be completed by October, 2000. Data are available at the NJDEP website.

New Jersey is assessing the vulnerability of drinking water sources to existing and potential pollution sources through the Source Water Assessment Program (SWAP). The SWAP in New Jersey was developed based on the 1996 amendments to the Federal Safe Drinking Water Act (NJDEP, 1999). Under the program, New Jersey will delineate areas which have the potential to influence waters (surface and ground) serving as public drinking water sources based upon hydrogeology. These areas include the delineation of watersheds upstream of surface water intakes, wellhead protection areas and to the extent possible, ground water recharge areas. Within these areas, the state will identify the origins of all contaminants regulated under the Federal Safe Drinking Water Act, and identify the vulnerability of the water systems to these contaminants. The program will also delineate sources at risk in the future. As part of the assessment, an evaluation of the types of treatment currently in place will be performed to determine if the processes provide adequate protection to meet current and potential water quality concerns.

3.5 TMDL Development

During 1998 and 1999, TMDLs were developed for the Whippany River Watershed (fecal coliform), Hackensack River (nickel), Upper and Lower Sylvan Lakes (total phosphorus) (NJDEP, 2000a). TMDLs were approved for Strawbridge Lake in September, 2000 (total phosphorus) (NJDEP, 2000b). Appendix A3.5-1 describes the lake TMDLs.

The TMDL development schedule was amended by an agreement between USEPA and NJDEP, in letters dated November 19, 1999 and December 6, 1999, respectively, and Amendment 1" signed by USEPA on March 9, 2000, and NJDEP on March 27, 2000 and is provided as Appendix A3.5-2 to this chapter.

3.6 Point Source Programs

Major accomplishments of the Permitting Program include:

The NJDEP's Division of Water Quality issued several new NJPDES General Permits and renewed two additional general permits. General permits reduce permit processing time because a standard set of conditions, specific to a discharge type or activity, are developed (rather than issuing individual permits for each activity).

Swimming Pool General Permit covers discharges from municipal, commercial and other non-residential swimming pools. These discharges result from the back-flushing of filtration equipment used to remove solids and other material from pool water and the emptying/draining of pools at the end of the swimming season or for maintenance. This permit relies on a Best Management Practice (BMP) approach.

Hydrostatic Test Water Discharge General Permit covers discharges occurring during the hydrostatic testing of storage tanks and pipelines that have been cleaned pursuant to recognized federal, state or general industry documented procedures. The general permit does not authorize the discharge of the cleaning water or tank bottom water. This permit also uses a BMP approach along with the submission of a certification form.

Construction De-watering Discharge General Permit authorizes discharges of groundwater that result from lowering the groundwater table during construction. This general permit also includes Best Management Practices (BMP's) and/or provides temporary treatment units as well as self-monitoring rather than numeric limitations.

Residuals Transfer Facilities General Permit authorizes certain residuals transfer facilities that temporarily store liquid sewage sludge (which includes domestic septage) and grease (which meets the definition of a domestic pollutant) prior to transfer to a duly permitted or approved residuals management operations for ultimate management. The new general permit incorporates BMP's and operation, maintenance, and inspection requirements. Currently, six facilities are authorized under this general permit.

General Petroleum Products Clean-Up Permit Renewal authorizes discharges of decontaminated groundwater into surface waters of the state or separate storm sewers. These discharges result from remediation projects and de-watering and pump test activities where groundwater has been contaminated by petroleum products. The renewed permit addresses methyl *tert* butyl ether (MTBE) and *tert* butyl alcohol (TBA). These compounds are fuel oxygenate additives that are typically present in modern reformulated gasoline. The scope was expanded to allow discharges that have other pollutants in addition to petroleum related constituents to be regulated under the general permit.

Existing Sanitary Septic Systems General Permit was issued for discharges to ground water from existing sanitary subsurface disposal systems. In the past, these dischargers were regulated under individual permits—a permit requiring an in-depth review by the division and substantial monitoring and reporting requirements for permittees. The Standards for Individual Subsurface Disposal Systems (N.J.A.C. 7:9A) required all facilities with a design flow in excess of 2,000 gallons per day to apply for an individual NJPDES-DGW permit. As a result of discussions with the regulated community, engineers, geologists and consultants, the division decided these types

of ground water discharges could be regulated more effectively using a general permitting regulatory approach. To date, over 300 facilities have been authorized under the new permit.

The “Scrap Metal Permit” general stormwater permit was reissued and expanded to include stormwater discharges to both surface waters and ground water from vehicle dismantling, crushing and scrap metal recycling and shredding facilities. The permit relies on Best Management Practices (BMP's) to control the discharge of pollutants. Control of fluids by proper dismantling procedures and secondary containment was emphasized in original permit for those facilities with surface water discharges.

Effluent Trading - Two industrial facilities discharging into the Passaic Valley Sewerage Commissioners (PVSC) system have completed an effluent trade—the first of its kind in the nation. Effluent trading is a regulatory method allowing dischargers achieving greater pollutant reductions than required to sell "credits" for their excess reductions to other dischargers not able to cost effectively reduce their own pollutants. The division has worked with the PVSC, the USEPA, USEPA's consultant - Industrial Economics, and various industry representatives to develop the trade program. Under the program, two users in the PVSC district have successfully completed a trade for copper. Twenty percent of the copper credit purchased was “banked” and is no longer available to be discharged—a plus for the environment.

Reclaiming Wastewater for Beneficial Reuse (RWBR) - The Division has been actively promoting beneficial reuse of wastewater from domestic and industrial wastewater dischargers. RWBR has a myriad of application potentials including the spray irrigation of crops, parks, and golf courses; dust control; fire fighting; and toilet flushing, to list a few. The high-level of disinfection and effluent treatment is required to protect the public health and environmental quality. During the 1999 Drought Emergency, a total of 17 facilities were authorized to use wastewater as a replacement water source. Many facilities are now evaluating how to implement reuse at their facility. The division prepared a guidance document to assist facility operators and owners interested in pursuing the reclamation of their wastewater.

Sludge Quality Assurance Regulations were readopted on May 17, 1999 at N.J.A.C. 7:14C. The readopted rules change the parameters required to be reported for all domestic and industrial treatment works. The reporting frequency for industrial treatment works was also changed.

New Jersey Environmental Management System (NJEMS) – The Department has embarked on a multi-media computer system to store air, water and waste facility information. Modules for NJPDES permitting, Treatment Works Approvals and Water Compliance and Enforcement have been completed and will be fully operational July 1, 2000. The new system will enable the NJPDES/TWA programs to share and process data more efficiently with each other as well as the rest of the department. Case managers will be able to manage their projects within the confines of one database system, allowing for ease of management oversight and coordination among the various internal program areas such as Enforcement, Planning, and Water Supply. Better data management and faster, more accurate permit generation will result in a time savings for both the department and the regulated community.

* The General Permit for Combined Sewer Systems was reissued on February 24, 2000 in accordance with N.J.A.C. 7:14A-6.13. The General Permit is issued to control the discharge of pollutants from Combined Sewer Systems through Combined Sewer Overflow (CSO) points. The most significant modification to the permit was the incorporation of provisions for the automatic renewal of existing authorizations as provided by N.J.A.C. 7:14A-6.13(d)9. Existing authorizations were renewed automatically when the General Permit was issued.

* A new database was developed to track and monitor permit processing for Treatment Works Approvals (TWA). Staff was trained on the use of the new database, NJEMS-TWA System, in November and December 1999. Final testing and debugging of the system occurred in January and February 2000. On April 1, 2000, the new system went on-line and is fully operational.

Combined Sewer Overflow Program: The Department's Statewide CSO Program consists of several regulatory efforts following parallel and concurrent tracks that are unified into a single control strategy. These regulatory efforts reflect the mandates that serve as the basis of the Statewide CSO Control Program requirements. These mandates include the New Jersey Sewerage Infrastructure Improvement Act (SIIA), the National CSO Control Policy, the New/New Jersey Harbor Estuary Program Comprehensive Conservation and Management Plan (NY/NJ HEP CCMP), and the National Environmental Performance Partnership System (NEPPS).

The first track of the program addresses the mandates of the SIIA. Under the SIIA (Enacted in 1988), the Department initiated a program which provides, in part, planning and design grants for the development and implementation of Solids/Floatables Controls and Dry Weather Overflow identification and elimination. The program requires permittees of CSO Points to develop and implement control measures that capture and remove solids/floatables materials from CSO discharges and to remediate and/or modify the combined sewer systems to eliminate dry weather overflows.

To date, SIIA planning activities have been completed for all of the known CSO Points. Design activities are ongoing or have been completed for 84 % of the known CSO Points. 10% of the planned CSO Solids/Floatables Control Facilities have been completed and are operating.

The following achievements have resulted from the implementation Solids/Floatables Control Measures.

- The Edgewater MUA had 9 CSO Points and 222 acres of land served by combined sewers in Edgewater Borough. To date, EMUA has eliminated 4 CSO Points through the creation of separate storm water and sanitary sewers. This activity eliminated the 96.2 acres of drainage area that contribute surface water runoff to the combined sewer system. This represents a reduction of the areas served by combined sewers by 43%. When completed, the Edgewater MUA proposes elimination of 8 of the 9 CSO Points through sewer separation and a 78% reduction in the combined sewer system service area. One CSO Point will remain with a Solids/Floatables Control Facility.

- The Towns of Harrison and Guttenberg, the Village of Ridgefield Park, and the North Bergen MUA (North Bergen Township) have completed construction and initiated operation of all of Solids/Floatables Control Facilities for at all of their CSO Points.
- The City of New Brunswick has eliminated its last remaining CSO Point through sewer separation.
- The City of Trenton has completed construction and initiated operation of Solids/Floatables Control Facilities for its only CSO Point. City also has implemented a Long-term Control Plan that significantly reduces the frequency and duration of CSO discharge events.

The second track of the program is reflected in the General Permit for Combined Sewer Systems and other similar enforceable commitments (e.g., Administrative Consent Orders, Judicial Consent Orders and Individual NJPDES Permits). In this track of the CSO Control Program permittees which own and/or operate any portion of a combined sewer system are required to develop and implement technology-based control measures including the Nine Minimum Control Measures identified in the National CSO Control Policy. Additionally, these enforceable commitments initiated the first phase of the planning activities of National CSO Control Policy's Long-term Control Planning (LTCP) Process. These planning activities include the performance of a significant landside monitoring and modeling of the combined sewer systems to characterize the frequency, duration and nature of combined sewer overflow discharges.

In the third proposed track of the Statewide CSO Control Program, the Department intends to complete the remaining elements of the National CSO Control Policy LTCP Process by integrating the regulatory and facility planning obligations of the Combined Sewer System (CSS) permittees with the Watershed Management/TMDL planning processes. Activities proposed in this process include development and implementation of water quality-based corrective action plans for CSO and non-CSO sources of pollution.

3.7 Finance (SRF) Programs

Major accomplishments of the Division of Water Quality's Municipal Finance and Construction Program include:

* In September 1998, the Municipal Finance and Construction Element certified 15 clean water projects for low-interest loans through the Environmental Infrastructure Financing Program. The DEP and the Environmental Infrastructure Trust (Trust) closed on the loans, totaling over \$67 million, with the project sponsors on November 5, 1998. The interest rate on the blended loans was 2.4%. Major improvements at the Somerset Raritan Valley Sewerage Authority STP and the Florence Township STP were included in the 1998 Financing Program. Environmental Infrastructure Trust Projects for 1998 are listed in Appendix A3.7-1.

* On November 4, 1999, 18 new clean water projects closed on their loans borrowing more than \$64 million from the DEP and the Trust. The interest rate for the 1999 Financing Program was 2.72%. The 1999 Financing Program provided funds to install solids/floatables control

facilities at combined sewer overflow (CSO) locations throughout Jersey City, improve treatment capabilities at the Passaic Valley Sewerage Authority STP and for other infrastructure improvements. Environmental Infrastructure Trust Projects for 1999 are listed in Appendix A3.7-1.

* With the readoption of the Financing Program rules published in the July 3, 2000 New Jersey Register, the Financing Program has expanded the scope of stormwater and nonpoint source (NPS) projects that qualify for financial assistance. Eligible stormwater and NPS projects focus on the water quality benefits associated with preventing, reducing, or controlling the amount of contaminated runoff adversely impacting ground and surface water. Amendments were adopted into the rule to make such areas as landfills (for closure and new cell construction), land acquisition, site remediation, and well sealing eligible for low-interest loans. Highlights of an SRF nonpoint source project to restore Colonial Lake are provided in Appendix A3.7-2

3.8 Nonpoint Source Management Program

Major accomplishments of the Department's Nonpoint Source Management Program include:

- updating the NPS Management Program plan (*Updated NJDEP Nonpoint Source Management Program Plan*, June 19, 2000) to meet the 9 minimum criteria. The updated plan was approved by EPA on August 10, 2000 (Highlights of the plan are included in Appendix 3.8-1);
- initiating use of the GRTS system. The data for all 1998-1999 319h projects was entered into the GRTS system. (A printout of projects in the GRTS system are included in Appendix 3.8-2);
- enhanced requirements in guidelines for 319h projects to assess 319 project effectiveness. (New Jersey's 2001 guidelines are available on the DEP web page.);
- numerous education and outreach efforts to promote water quality improvements including public meetings to report nonpoint source project success and guidance to developers and watershed partners with respect to measures addressing specific types of NPS pollution.
- Two new guidance documents *Revised Manual for New Jersey: Best Management Practices for Control of Nonpoint Source Pollution from Stormwater* May 2000 and *Revised Manual for New Jersey: Best Management Practices for Control of Nonpoint Source Pollution from Stormwater* August , 2000 are available on the DEP web page; and,
- implementation of agricultural best management practices (BMP) using federal and state grants through the Environmental Quality Incentive Program and Conservation Cost Share Program.

3.9 Site Remediation Program (SRP)

The remediation of contaminated sites falls under the purview of the Site remediation program (SRP). Due to New Jersey's lengthy industrial history, numerous hazardous waste sites and

landfills have been identified which caused environmental impacts to soil, surface and ground water, and air. At many sites, soil was contaminated; at fewer sites, multiple environmental media were contaminated. To prevent new contaminated sites, manufacturing facilities using toxic chemicals are required to develop pollution prevention plans.

NJDEP began to control and mitigate contamination to protect communities and the environment. As of July 1999, 10,526 areas of concern (partial sites) or sites have been remediated and received a No Further Action (NFA) letter. An NFA letter indicates that the contamination has been cleaned-up, mitigated or controlled, is no longer under the oversight of the SRP, and the site is no longer a threat to the environment. In the last year alone, NJDEP oversaw \$100 million in completed cleanups at contaminated sites and had more than 8,000 sites in the remediation process.

All potentially contaminated sites in the State are included in a Comprehensive Site List and each site is ranked using a Remedial Priority System (RPS). The RPS is the scoring system used to prioritize sites based on impacts or potential impacts to various media. Responsible Parties can work with the Department through a Memorandum of Agreement at any time. Once a site becomes a priority base on the RPS score, the responsible party must enter into an Administrative Consent Order with the department to investigate and remediate the site. Sites which fall under the purview of the Industrial Site Recovery Act (ISRA), or the Underground Storage of Hazardous Substances Act (UST) are required by statute to investigate and remediate the sites. If the responsible parties fail to undertake the remediation, the State can step in under the authority of the New Jersey Spill Act or CERCLA (Superfund) to ensure the remediation is completed.

As of July 1999, the number of sites where one or more ground water criteria were known to be exceeded was approximately 6475. The remediation of these sites is implemented on a priority “worst first” basis.

Classification Exception Areas (CEA) - The Site Remediation Program (SRP) and Bureau of Water Allocation (BWA) are currently developing a process that will enable BWA to coordinate the issuance of well permits with the location of CEA's. CEA's are areas of known and projected ground water contamination above state standards. This application will allow staff to enter proposed well locations and determine if such location is in or near a CEA. Well permit applicants, current owners of the property where the well is proposed to be drilled, and County and Municipal Health Departments (local administrative authorities), where applicable, will be notified of the existence of the CEA through issuance of the well permit decision. In addition, the person responsible for the contamination, if known, will be advised of the well permit decision.

Underground Storage Tanks - More than 10,000 tanks were upgraded or closed in 1999. Since the passage of tank upgrade laws, more than 60,000 tanks have been closed and 10,000 reported discharges cleaned up, helping to protect ground and surface water. SRP conducted a tank owner assistance effort for upgrades to ensure compliance with leak detection requirements at remaining tank locations.

3.10 Coordination With Other Agencies

Coordination with other agencies has been expanded to include numerous watershed partners as Public and Technical Advisory Committees are formed. An important focus for estuarine-coastal activities in New Jersey has been through multi-state regional efforts under the National Estuary Program which USEPA administers through the States. NJDEP in conjunction with other partners petitioned and received designation of three New Jersey estuaries as nationally significant.